No. 16481

IN THE
United States Court of Appeals
For the Ninth Circuit

EVIS MANUFACTURING COMPANY, a corporation, and ARTHUR N. WELLS, *Petitioners*

v.

FEDERAL TRADE COMMISSION, *Respondent*

On Petition to Review an Order of the Federal Trade Commission

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BRIEF FOR RESPONDENT

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BRIEF FOR RESPONDENT

I. COUNTERSTATEMENT OF THE CASE

This case comes before the Court upon a petition to review and set aside an order to cease and desist issued by the Federal Trade Commission at the conclusion of proceedings on a complaint which charged petitioners

with violations of Section 5(a)(1) of the Federal Trade Commission Act.[1]

A. Proceedings before the Commission

By complaint issued on February 5, 1954, the Commission charged petitioners with unfair methods of competition and unfair and deceptive acts and practices in commerce in connection with the sale and distribution of a product represented as "Evis Water Conditioner" (hereinafter sometimes called "Evis"). It was alleged that petitioners sold in interstate commerce Evis conditioners, which they shipped from their place of business in California, and that the individuals Joseph T. Voorheis and Arthur N. Wells formulated, directed and controlled the policies and practices of the corporate petitioner (I, 2-3).[2] The unfair methods

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[1] Section 5(a)(1), 66 Stat. 632 (1952), 15 U.S.C. § 45(a)(1) (1958) provides:

> Unfair methods of competition in commerce, and unfair or deceptive acts or practices in commerce are hereby declared unlawful.

And the authority of the Commission to enter its final order is given in Section 5(a)(6) of the Act, 66 Stat. 632 (1952), 15 U.S.C. § 45(a)(6) (1958):

> The Commission is hereby empowered and directed to prevent persons, partnerships, or corporations, * * * from using unfair methods of competition in commerce and unfair or deceptive acts or practices in commerce.

[2] Joseph T. Voorheis, president of the corporate petitioner at the time of the issuance of the complaint, passed away while the proceeding was pending before the Commission, which therefore dismissed the complaint as to him. Thus Arthur N. Wells, vice-president of the corporate petitioner (II, 404), is the sole individual petitioner.

As transmitted to the Court, the record which is not printed consists of seven parts. Roman numerals followed by Arabic numerals identify the Part or Volume and page number, respectively, of the record reference under discussion.

and unfair and deceptive acts were alleged to consist of false advertising, which, in substance, directly and by implication, represented that the Evis (I, 3-6)

(a) was made of a specially processed cast metal;

(b) had a catalytic effect on water passing through the conditioner which changes the physical behavior of such water in many beneficial ways;

(c) would solve hard water problems;

(d) would make hard water soft;

(e) would cause hard water to feel or act softer, giving it a silky-smooth quality for hair, bath, dishes, laundry and car wash without the use of chemicals;

(f) would remove or reduce unpleasant odors and flavors in water;

(g) would make water taste better;

(h) would improve the taste of coffee or foods;

(i) would reduce the amount of soap required for washing;

(j) would reduce the cost of heating water;

(k) would eliminate or reduce the harshness of water to the hands;

(l) would cause dishes or glassware to dry without leaving water stains;

(m) would remove grease;

(n) would prevent or remove scale;

(o) would prevent, reduce or eliminate scum;

(p) would prevent, reduce, or eliminate rust stains;

(q) would prevent, reduce or eliminate corrosion or retard pitting of metal;

(r) would improve the action of chemicals used for water softening purposes;

(s) would leach out alkalies and salts in soil;

(t) would improve the growth and production of agricultural or orchard products and plants;

(u) would improve the texture or structure of soil;

(v) would reduce the amount of water required for agricultural irrigation.

In their answer, petitioners generally denied that any statement or representation contained in their advertising was false, misleading or deceptive. They specifically asserted that some of the representations identified in the complaint had been discontinued, that their advertisements consistently stated that Evis was not a water softener, that their claims with regard to water qualities for agricultural purposes did not relate to the use of water for plant growth (I, 23-27).

Thereafter, hearings were held before an Examiner, who filed his initial decision dismissing the complaint on the grounds that the allegations were not supported by reliable, probative and substantial evidence (I, 512-547). On appeal, the Commission vacated the initial decision and remanded the case to the Examiner for the purpose of receiving evidence of further scientific tests of the Evis water conditioner (I, 654-655). Pur-

suant to the Commission's direction, additional scientific evidence was presented to the Examiner who then filed his second initial decision, again dismissing the complaint (I, 692-732).

Upon appeal, the Commission reversed the Examiner's second initial decision regarding the representation of Evis' beneficial effects on water and held these representations to be false and deceptive (I, 797-817). The Commission sustained the Examiner's ruling that there was no probative and substantial evidence of petitioners' having falsely claimed that Evis was made of a specially processed metal (I, 802, 814, 816). Accordingly, a final order was entered requiring petitioners to cease and desist from representing either that Evis has the qualities specified in subparagraphs (b) through (v) above or that Evis has any beneficial effect on water (I, 804-805).

B. The facts

The Evis, which purports to be a water conditioner, is just a piece of pipe having the appearance of an oversized coupling with a vertical crosspost cast inside, (II, 417-418; CX 10).[3] It is intended to be fitted into water systems and is made of cast iron or bronze, those of cast iron being coated both inside and outside by zinc galvanizing (CX 25-VI, 875; CX 29A-VI, 890;

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[3] References to Commission exhibits are preceded by the letters "CX" and those to petitioners' exhibits by "RX", followed by Roman and Arabic numerals which indicate the Part or Volume and page number, respectively, where the exhibit under discussion is found in the record.

CX 10 is a physical exhibit of an Evis water conditioner. For pictorial reproductions of an Evis pipe, see CX 2-VI, 818; CX 15-VI, 848; CX 17-VI, 851; CX 26-VI, 876-877; CX 28-VI, 887; CX 36-VI, 909; CX 37-VI, 910; CX 38-VI, 915.

CX 57-VI, 954-955; II, 420-421, 422, 423). The device is offered in various sizes and is priced according to size (CX 25-VI, 875; CX 26-VI, 877).

Petitioner Wells, who testified that he had invented the piece of pipe called "Evis", is neither a chemist nor a licensed engineer, but he has done work in the engineering field for some 20 years (II, 412). According to him, the Evis pipe does not cause any *chemical* change in the structure of water; it allegedly alters "*something physical*" in water (II, 415, 435; emphasis added). On the other hand, he concedes that the Evis pipe leaves unaffected such measurable physical characteristics of water as specific gravity, boiling point, viscosity, surface tension and density (II, 435, 436). He admits that the pipe is neither magnetized nor radioactive and that it does not contain any electrodes (II, 468). He asserts that the effect of the Evis is to change the behavior of the water at the interfaces (the area of contact between the fluid and any other substance) as soon as the water passes through this piece of pipe (II, 414-415); and the asserted effect, he contends, is the result of the "crystalline structure" of the Evis pipe rather "than [of] its chemistry," although the elements contained in the pipe admittedly are the same as those found in ordinary cast iron or in ordinary bronze (II, 422, 423). But, according to Wells, special processing somehow mysteriously adds elements to the metal which may or may not be detected by spectroanalysis (II, 424-425, 428). On advice of counsel he refused to disclose either the process or the identity of the elements added (II, 426). Yet he also testified that he is "not treating water by virtue of anything that is added to the

iron." (II, 428.) Thus, on the one hand, we are faced with statements that the alleged effect is to be attributed, as a result of the addition of elements by a special process, to the crystalline structure of the Evis pipe; and, on the other hand, we are confronted by the assertion that this purported effect is in no wise related to the addition of these elements.

Even though Wells has testified that he invented the device, he cannot explain why or how it performs the alleged functions; all he can say is that it is a phenomenon (CX 24-VI, 874; II, 444, 468). He cannot offer any scientific law or principle nor any scientific theory which would warrant scientists' lending credence to his claims (II, 416, 435-436, 461, 465; III, 1277). Though asserting that the usual laboratory tests will not reveal any effect of the Evis pipe upon water, he testified that the alleged difference in the water can be detected "along the lines of the phenomenon", whatever that means (II, 468). One of the tests recommended in petitioners' literature is to try the "feel" of two specimens of dirt or soil, one mixed with Evis-treated water (i.e., water that has passed through the Evis pipe), the other mixed with untreated water. The specimen made with Evis-treated water is supposed to feel "smooth, slippery and disintegrated" compared with the other specimen (CX 8A-VI, 828; CX 27A-VI, 879).

Since January 1, 1952, the Evis pipes have been sold in the various states and have been distributed with advertising material and installation instructions (II, 32, 85, 405, 407-412).[4] The following are some of the

[4] The following are samples of advertising material and installation instructions: CX 2-VI, 818-819; CX 8A through F-VI,

claims made by petitioners for the Evis pipe in their advertisements:

> The Special Processed Cast Metal of the Evis Conditioner imparts a continuous catalytic effect on water, water solids and entrained gases. This catalytic correction changes the physical behavior of water in many beneficial ways. (CX 12-VI, 844.)
>
> The amazing new Evis Water Conditioner . . . that makes hard water feel, taste, and act softer—without chemicals—without destroying natural minerals . . . that removes unpleasant odors and flavors . . . removes old scale and prevents new scale . . . saves fuel . . . that gives silky-smooth quality to water for hair, bath, dishes, laundry, car wash . . . that improves coffee and other food flavors. (CX 13-VI, 845.)
>
> Makes Even the Hardest Water Behave "Tame"! (CX 15-VI, 847.)
>
> We suggest you start two tomato plants (or start from tomato seeds, and record the dates when plants first appear). Treat one with EVIS-ized water and the other with raw water, of course—observe the difference in plant's growth, strength and relative abundance of fruit. (CX 21-VI, 862.)

Early installation instructions did not contain specific directions for placing the Evis in a water piping system (CX 2-VI, 818-819; CX 29A through B-VI, 890-891). According to the record, commencing

827-838; CX 12-VI, 844; CX 13-VI, 845; CX 14-VI, 846; CX 15-VI, 847-848; CX 17-VI, 851; CX 18-VI, 852-855; CX 19-VI, 856-858; CX 21-VI, 861-864; CX 22A through D-VI, 865-871; CX 23-VI, 872-773; CX 24-VI, 874; CX 26-VI, 876-877; CX 27A through D-VI, 878-885; CX 28-VI, 886-889; CX 29A through B-VI, 890-891; CX 30-VI, 892-895; CX 31A through E-VI, 896-900; CX 33-VI, 901-904; CX 57-VI, 954-955; CX 58-VI, 956-959; RX 34-VI, 1009-1012. RX 52-VI, 1021-1024 and CX 58 are identical.

in 1952, extening throughout 1953 and covering part of 1954, elaborate installation instructions were issued, each set superseding the previous one. These included such directions as an admonition not to mix Evis-treated water with untreated water and to provide proper grounding of the piping system (CX 8C-VI, 831-832; CX 21-VI, 864; CX 22D-VI, 871; CX 27B-VI, 881; CX 31C-VI, 898; CX 58-VI, 956-959; RX 34-VI, 1009-1012).[5]

However, as late as September 1953, the president of the corporate petitioner stated: "The plumber who installs the Evis units will usually place it so the water flows in the direction of the arrow although if he should make a mistake it would make no difference." (CX 34-VI, 905.) Above all, the latest instruction set (CX 57-VI, 954-955) which was issued in 1956 and which is included in the record omits many of the previous directions, such as those covering the requirement of proper grounding of the water piping system.

II. QUESTION PRESENTED

Are the Commission's findings of facts and conclusions of law based on substantial evidence?

III. SUMMARY OF ARGUMENT

The fundamental issue in the instant case is the substantiality of scientific proof upon which the Commission relied in concluding that the Evis pipe does not have any beneficial effect upon water, and in ruling that any contrary representations by petitioners are false, misleading and deceptive. This decision was based upon an amazing uniformity of view among

[5] CX 58 and RX 52 are identical.

the scientists who testified on behalf of the Commission and who had many years of experience in chemistry, physics and engineering, including the more specialized field of water treatment. Their unanimous opinion was that the Evis pipe could not affect water.

Further, their testimony was corroborated by that of the only scientist, a chemist, who was called as a witness on behalf of petitioners and who stated on the stand that tests to substantiate the validity of the Evis claims had proved to be inconclusive. Another chemist had been retained by petitioners as a consultant in this case; he also testified on their behalf, but counsel for petitioners did not ask him a single question about the operation of the Evis pipe or its effect upon water.

In the instant situation, therefore, the scientific testimony presented to the Commission stands uncontradicted by any other scientific testimony regarding the effectiveness of the Evis pipe. Thus, this is *not* a case in which the Commission was confronted with a conflict of views of scientists and the problem of resolving such conflict. *Vacu-Matic Carburetor Co.* v. *Federal Trade Commission,* 157 F. 2d 711, 713 (7th Cir. 1946), *cert. denied,* 331 U.S. 806 (1947); *Justin Haynes & Company* v. *Federal Trade Commission,* 105 F. 2d 988, 989 (2d Cir. 1939), *cert. denied,* 308 U.S. 616 (1939).

Petitioners' entire rebuttal evidence consisted of what is generally known as consumer or user testimony, given by 91 witnesses. On the other hand, the record also demonstrates that 3,000 other users, had they been called to the stand, would have testified that Evis was a failure, so that the statements of petitioners' witnesses would have been more than offset.

Therefore, in the light of these facts, reflected in the record and consonant with the controlling principles of law, the Commission was eminently justified in resting its decision upon the scientific evidence and in holding that the Evis pipe has none of the effects claimed by petitioners. *National Labor Relations Board* v. *Nevada Consolidated Copper Corp.,* 316 U.S. 105, 106 (1942).

IV. ARGUMENT

A. The testimony and other evidence, covering tests, experiments and studies of the device, constitutes substantial proof that the Evis pipe has no effect on water.

The entire controversy centers upon the substantiality of the evidence which supports the Commission's decision. This evidence consists of opinion testimony by Commission witnesses based upon their education, training, knowledge, scientific background and experience and of testimony reciting results of laboratory tests and experiments performed with the Evis device and presenting the conclusions drawn from these results. We shall discuss first the opinion testimony.

1. The uncontradicted consensus of scientists that the Evis pipe does not affect water is substantial evidence.

Commission witness de Bussieres, a chemist and chemical engineer with 30 years of experience, particularly in chemical analysis of a large number of organic and inorganic products and materials (II, 476-477), unequivocally stated that according to his knowledge of theoretical chemistry, there is not "* * * anything about the device that would cause a change in the characteristic of water passing through it." (II, 482.)

Another opinion was that of Dr. James I. Hoffman, Chief of the Surface Chemistry Section and Assistant Chief of the entire Chemistry Division of the National Bureau of Standards, an agency of the United States Government. He has been associated with the Bureau since 1919 and has an outstanding record in his field, being the author of many scientific publications as well as the receiver of an award from the American Chemical Society (III, 1107-1114, 1142-1144). Not only is Dr. Hoffman an eminent chemist; he also has wide experience in the field of water treatment (III, 1115-1116). It was his opinion that the Evis pipe could not treat water to give it any beneficial effect and that the "crystalline structure" of this piece of pipe (p. 6 above) has nothing "* * * to do with the passage of water through the conditioner." (III, 1116-1117.) Nor could Dr. Hoffman visualize any "* * * scientific basis upon which [petitioners'] claims are based * * *." (III, 1168.)

In connection with further consideration of Dr. Hoffman's views, it should be noted that petitioner Wells described, during his testimony, the Evis pipe as a "catalyst"; but he also stated, at the same time, that it was *not* a "true catalyst." (II, 428-432.) In the advertisements, the pipe was characterized as having a "catalytic effect" or as producing a "catalytic action," which changes the "*physical* behavior" of water (CX 8A-VI, 827; CX 12-VI, 844; CX 26-VI, 877; CX 27A-VI, 878; CX 28-VI, 887, 888; emphasis added). Wells was equally emphatic that his pipe would alter "something physical" in the water but that it would leave the chemical structure of the water unaffected (p. 6 above: see also, for example, CX

31A-VI, 896). In the light of this assortment of statements, let us look at Dr. Hoffman's reasoning. First of all, Dr. Hoffman explained that Wells' claim of the catalytic effect's changing "something physical" was scientifically untenable (III, 1118). Next, Dr. Hoffman pointed out that a catalyst cannot cause a reaction to occur; it can merely accelerate an existing reaction (such reaction being chemical, not physical in nature), and where a catalytic action takes place, it is accompanied by a chemical change (III, 1118-1119). Dr. Hoffman also stated that the catalyst must come into actual physical contact with the matter in which the reaction is sought to be produced (III, 1119-1120). On cross-examination Dr. Hoffman stressed that under the present-day state of science he could not possibly envisage that the Evis pipe could be treated so as to "* * * act in a catalytic manner * * *." (III, 1334.)

Commission witness R. E. L. Gildea, who is instructor of civil and sanitary engineering (including the field of water treatment) at the University of Virginia since 1946, and who before 1946 taught these subjects at Virginia Polytechnic Institute for nine years, is also engaged in research in sanitary engineering (V, 3944-3946). He expressed the view that problems of water treatment are primarily of a chemical nature and that a device such as the Evis pipe could have no effect on water without changing "* * * the chemistry of it." (V, 3963-3964, 3966.) The Gildea opinion fully substantiates Dr. Hoffman's explanation that a catalytic effect necessarily implies a change in the chemical structure of the water.

Aside from their conclusion that the Evis pipe has no effect on water, their testimony unmasks an irrecon-

cilable conflict between Wells' assertion, on the one hand, that the device, though producing catalytic action, does not alter the chemical structure, and, on the other hand, that the catalytic effect changes the physical behavior. As noted by Dr. Hoffman, under present-day knowledge there is no principle or theory which could supply any sense to the claims made by petitioner Wells. To accept any endeavors to justify these claims would thus require the exercise of powers of clairvoyance. Unless the Commission had closed its eyes to the opinions of these scientists, it could have drawn no possible conclusion other than that these views constitute substantial evidence, particularly when these opinions remained uncontradicted by any scientific testimony regarding the effectiveness of the Evis pipe.[6]

2. The testimony of scientists reporting the results of tests and experiments and concluding that Evis does not affect water, constitutes substantial evidence.

Turning now to a large number of tests and experiments conducted with the Evis pipe, we find that every one of them corroborates the unanimous scientific opinion that Evis does not perform the purported functions.

Apparently at the request of a representative of the

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[6] Counsel for petitioner, on cross-examination of Dr. Hoffman, for example, for want of any scientist willing to subscribe to counsel's opinion on scientific matters, stated that there is a body of opinion which holds the view that a catalyst could initiate a reaction. Counsel then read into the record some statements from a chemical encyclopedia (III, 1328-1333). Aside from the irrelevancy and incompetency of hearsay testimony given by counsel, the crucial point is that he did not call a single scientist on the stand to contradict Dr. Hoffman's views in the matter.

corporate petitioner (II, 23-24), the Department of Water and Power in the City of Los Angeles ran experiments and tests with the Evis device, all with negative results. This work included tests to determine whether the Evis pipe could, in any way, change the hardness of water, aid in the operation of base exchange softners, improve the taste or odor of water, prevent the formation of scum, or remove scale (II, 12, 14-15, 15-16, 16-17, 109-112). These tests were conducted by experts under controlled conditions with the Evis device installed in accordance with the instructions received with it (II, 2-3, 15-16, 28, 30, 32, 53, 85; CX 2-VI, 818).

The Harbor Department of the City of Los Angeles was interested in finding out whether it could use the Evis pipe in its laboratory to prevent scale deposits and the formation of stains, spots and streaks on glassware after washing (II, 134, 195-196). The tests were conducted under the supervision of an engineer and chemist who has had 25 years of experience in research and in testing materials (II, 193-194, 198). Again the tests were all negative: the pipe had no effect on scale formation, nor did it prevent stains on glassware (II, 138, 140, 143-144, 196-197). And incidentally, no specific written instructions were received with the device, only some literature and verbal instructions that it be installed on the water line in accordance with the arrow on the instrument indicating the flow of water (II, 189, 233).

The Southern California Gas Company, through one of its engineers, a chemist of 30 years' experience (II, 318-319) tried the Evis in several respects, performing, among others tests specifically recommended by peti-

tioners (C X8E-VI, 835). However, these tests did not reveal any differences between Evis-treated and untreated water (II, 322, 326, 327, 328-330). The so-called treated water was water passed through an Evis pipe installed in accordance with instructions set forth in CX 2-VI, 818 (II, 355, 356), which merely required that the Evis be placed on the main supply line next to the water meter and that Evis-treated water not be mixed with untreated water.

Tests were conducted by Dr. Lowell E. Allison, a soil scientist at the United States Salinity Laboratory of the United States Department of Agriculture in Riverside, California. As in the case of the Department of Water and Power of Los Angeles, these tests were performed at the request of someone connected with petitioners, and the pertinent work extended over a period of approximately 60 days (II, 240-241, 242). The object was to determine any effect of Evis-treated water on soil properties and plant growth (II, 236-237). No written, only verbal installation instructions were received with the Evis, and midway through the tests the device was replaced with another Evis pipe by an Evis representative (II, 243, 244). Dr. Allison testified that he could detect no significant differences between the normal water and the Evis-treated water in alkalinity (pH), electrical conductivity, saturation, hydraulic conductivity or moisture retention. Dr. Allison did not find any difference between the two types of water in regard to their effect on the modulus of rupture of soil or on plant growth (II, 238-239; CX 7-VI, 826). It was the opinion of this highly trained and experienced scientist (II, 235-236) on the strength of the data revealed by the tests, that there was no

value in the Evis treatment. So firm was his conviction that he would not further pursue the investigation (II, 305).

At the request of the Better Business Bureau of San Francisco, California, Hugo de Bussieres, as above noted, a chemist and chemical engineer of some 30 years of experience, carried out several experiments which were designed to determine the mechanical and chemical characteristics of the device (II, 478, 482). He was particularly interested in the "dielectric constant" (II, 478), a measure of the internal molecular structure of a substance (II, 486), and tested for those characteristics of water, i.e., conductivity and freezing point, which would change if the dielectric constant changed (II, 486). He found no difference between Evis-treated and untreated water as to freezing point and conductivity (II, 478, 479). In addition, soap hardness and precipitation tests which he conducted did not disclose any dissimilarity in the hardness and in the scaling characteristics of the two waters (II, 479). Nor did he find any difference in the surface tension of the two waters (II, 481). His testimony was that there was nothing "* * * about the device that would cause a change in the characteristics of the water * * *," (II, 482.)

Next, Commission witness Benezra, a chemist of some 14 years of experience (II, 557-558), tested the Evis pipe for its effect on water softness, scaling, and drain streaks on glassware (II, 559-561). He installed the Evis pipe according to the instructions that came with the device, save for some slight modifications in order to control the tests (II, 559; CX 35-VI, 906). The results did not produce any differences between

Evis-treated and untreated water (II, 560-562). He pointed out, in connection with the precipitation tests performed by him to determine the Evis effect on scaling, that such tests are made under conditions almost comparable to those found in a boiler or evaporative condenser in that the heating of hard water will precipitate calcium carbonate and magnesium, which will lodge on the closest surface, thus forming scale (II, 573, 574). He also testified that, under the direction of petitioner Wells, an Evis pipe was installed on a main inlet to the witness' home and that he could find "* * * no difference in the wash or clothes that came out of it." (II, 569.)

Moreover, numerous tests and experiments were performed at Washington State College, Institute of Technology, Division of Industrial Research, initiated at the request of the Better Business Bureau (II, 651). Some of these were conducted in the laboratory; others in field or practical installations. None demonstrated that the Evis pipe was of any value in the treatment of water. As shown by the results of the tests and experiments, the Evis pipe did not change the hardness of water, did not affect the formation of scale in coffeemakers or hot water tanks, the amount of soap used in dishwashers, the removal of iron oxide in water closets, the oxygen or the alkali (pH) content, nor did it aid in the operation of ion exchange (base exchange) softeners (II, 585, 594, 596, 600, 604, 606-607, 617, 623, 848, 849).

Dr. Albrook, Director of the Division of Industrial Research, a chemist (II, 582-583, 643) stated his opinion thus: In the light of the negative results of the tests and experiments, the device will not prevent scale

or depositions of hydrated oxygen, nor will it remove scale or oxygen, nor will it lower hardness of water, nor help zeolites reduce hardness (II, 643). Dr. Mark F. Adams, a research chemist at the Division (II, 844-845) who participated in the laboratory tests (II, 846), stated that in his opinion, based upon all the facts he was able to obtain from the experiments and based upon his knowledge and experience, "* * * the Evis water conditioner does not have any effect on the scaling properties of water, the softness or hardness of water, or in any way affects the water that passes through it." (II, 853-854.)

Of signal importance was the series of infrared spectroanalyses of Evis-treated and untreated water samples made by George D. Wagner, Jr., also a member of the staff of the Division of Industrial Research (II, 883). The Wagner analyses by infrared spectrograms revealed that the molecular configuration and geometrical arrangement of the molecules of Evis-treated and untreated water were identical, since the spectrograms of the two waters were the same (II, 887; CX 47A and B-VI, 934-936). It is this characteristic of the water, if any, that would have been changed if any effect had been or were to be obtained in the Evis treatment. In the words of petitioners: "* * * Evis always performs at its top efficiency *because the delicate change of molecular organization established by EVIS-izing* is then freed from the interference of electric currents." (RX 34-VI, 1011; emphasis added.) Yet the spectrograms demonstrated that there was no difference between "the molecular organization" of Evis-treated and untreated water (II, 888, 918-919). And it should be noted in passing that this test fully bears out the

views expressed by Commission witness de Bussieres, who concluded from the identity of freezing point and conductivity of Evis-treated water and untreated water that the dielectric constant of the two types of water would therefore also be identical (p. 17 above).

Dr. Robert C. Weast, associate professor of chemistry and chemical engineering at Case Institute of Technology (III, 983-985), conducted tests to determine whether or not the Evis pipe would remove scale from scaled water pipes (III, 986-987). Dr. Weast's work took thirty weeks. He installed the Evis device (CX 50-VI, 944), and after the first, third, ninth, twenty-third and thirtieth week, he removed portions of pipe in the Evis line and in the control line, and each section was cut in half and photographed (CX 51 and CX 52, A through D).[7] A screen was placed at the bottom of the pipe line with the Evis device in order to entrap any scale loosened by the action of the Evis (III, 990). But Dr. Weast never found any solid matter entrapped in the screen (III, 990), nor could he discern any decrease in the amount of scale in the pipe during the thirty-week test (III, 990). In his opinion, therefore, "* * * the Evis unit does not remove scale from previously scaled pipes." (III, 996.)

Dr. James I. Hoffman who, as hereinabove noted, could not visualize any scientific basis for the Evis claims, also performed, and participated in the observation of, tests which fully supported his opinion testimony that the Evis pipe could have no effect upon water. Thus, he tested the Evis pipe as to whether it

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[7] CX 51 and CX 52, A through D are physical exhibits representing six and four colored photographs, respectively, of sections of pipe.

would cause the removal of scale, by placing it in a piping system for 68 days. Thereafter, he disconnected the test and control pipes. The pipes used were photographed and weighed before and after the tests. Neither was there any significant change in weight nor did Dr. Hoffman find any removal of scale (III, 1132-1135, 1137; CX 54-VI, 948-949; CX 55-VI, 951-952). Dr. Hoffman also observed the result of the surface tension test, which showed that the Evis pipe did not change the surface tension of water (III, 1124-1125, 1349).

In the light of petitioners' claims that the Evis pipe alters "something physical" in the water, Dr. Hoffman pointed out that energy would be required to change the normal physical characteristics of water but that the Evis pipe did not supply energy to the water passing through it (III, 1139-1141). And as to the scientific possibility of a conversion of energy, postulated by counsel for petitioners on cross-examination, that could bring about a change of the physical characteristics of water, Dr. Hoffman stated that such a possibility would be beyond his comprehension (III, 1338-1339). Indeed, he unequivocally testified that, on the basis not only of his scientific knowledge and experience but also of the tests performed with the Evis pipe, the device "* * * can have no effect on water." (III, 1144-1145.)

Upon remand of the case to the Examiner (p. 4 above), extensive tests of the Evis device were undertaken by the Engineering Experiment Station of the University of Virginia. These tests were conducted under the supervision of R. E. L. Gildea, who, as noted above, is a civil and sanitary engineer and has spent

many years in teaching civil and sanitary engineering at the university level and whose courses include instruction on water treatment, water-treatment processes, and water analysis and laboratory work in analytical procedures which are recognized as standard and acceptable methods for the analysis of water (V, 3944-3945, 3957-3958). Mr. Gildea submitted a report of the results of these tests (CX 64-VI, 965-1008). The experimental work was performed by Dr. L. B. Johnson, Jr., a member of the staff of the Engineering Experiment Station, who is a research engineer holding degrees in chemistry and meteorology, including a Ph.D. in physical chemistry (V, 3787-3788).

The purpose of the tests was to determine whether the Evis pipe would prevent scaling, remove previously formed scaling, reduce the amount of water used in laundering, remove entrained gases from water and prevent or lessen corrosion caused by water (V. 3793; CX 64-VI, 971-973, 973-974, 974-976, 976-978). Seven Evis pipes in all were used in the tests. Dr. Johnson installed five of them in accordance with the instructions contained in CX 57-VI, 954, and two pursuant to the directions given in CX 58-VI, 956-959 (V, 3790-3792). The results of the tests, which extended over a period of several months, were as follows. There was no difference between Evis-treated and untreated water with respect to the prevention or removal of scale, the amount of water used in laundering, the prevention or lessening of corrosion and the removal of entrained gases (V, 3795-3796, 3802, 3806-3808, 3811; CX 64-VI, 979-993). It was also found from the laundering tests that the use of the Evis pipe did not change the amount of soap required in laundering (V, 3823).

In summing up his conclusions Dr. Johnson stated "* * * that the characteristics of the water would not differ whether they passed through an Evis unit or whether they did not." (V, 3836-3837.)

In addition to these tests, Mr. Gildea made extensive comparative analyses and studies of Evis-treated and untreated water (CX 64-VI, 994-1007). They reveal that the Evis pipe has no effect on water that has passed through it (CX 64-VI, 1006-1007). Of particular significance is the "Total Dissolved Solids" analysis (CX 64-VI, 996-997), which demonstrates that the Evis pipe does not cause any conversions of the solids present in the water, such as from a state of solution to one of suspension (V, 3950-3951). This, in turn, shows that the Evis does not change the characteristics of water insofar as total dissolved solids are concerned. Even more important is Mr. Gildea's conductance analysis, which disclosed that the specific conductance of water is uninfluenced by passage of water through the Evis device. This result has been described in the report as "very significant" (CX 64-VI, 1004). Indeed, the pertinent finding is telling because it fully substantiates the results of Dr. Allison's and de Bussieres' conductivity tests and constitutes additional confirmation of the Wagner spectroanalysis, which revealed that the molecular configuration of Evis-treated water does not differ from that of untreated water (pp. 16, 17, 19 above). The data which Mr. Gildea prepared represent further verification of his opinion that the Evis device cannot have any effect upon water unless it alters the chemical structure of the water, and the analysis he made demonstrates that the Evis causes no chemical change (V, 3966).

In short, the views expressed by the scientists and the conclusions drawn by them from the tests and experiments corroborate each other. Every one of them confirmed, and concurred with, the observation that the Evis pipe has none of the beneficial effects on water claimed by petitioners. On the basis of the uniformity of scientific opinion as to the ineffectiveness of the Evis pipe, which, as more fully developed below, is not contradicted by any views of other scientists, the Commission was fully warranted in accepting the scientific opinion testimony and the conclusions drawn from the results of tests and experiments as highly substantial evidence. It completely sustains the decision that petitioners' representations concerning the Evis pipe are false, misleading and deceptive.

B. Petitioners' contentions, which rest almost exclusively on conflicting consumer testimony, are without merit.

Some 91 witnesses testified on behalf of petitioners that they obtained beneficial results from the use of the Evis pipe (Pet. App. B).[8] On the other hand, the record also shows that 3,000 other users, had they been called to the stand, would have testified that the Evis pipe was a failure. This is conceded by petitioners and must be regarded as an admission against interest. The further assertion by petitioners that 97% of the Evis users were satisfied is strictly a self-serving dec-

[8] While 100 witnesses are listed in Appendix B to petitioners' brief, four of them are Evis distributors, namely witnesses Moran, Tudury, Herwig and Grimm; one, viz., Simington, sold the Evis device at the time he conducted experiments (IV, 3328-3329); three, i.e., Frantz, Sirine, and Hasbrook, testified as to laboratory tests only; and O'Connell acted as consultant to counsel for petitioners for the purpose of this case but was not asked a single question about the use of Evis.

laration (V, 3764-3765). Moreover, it should be borne in mind that user or customer satisfaction can never excuse deceptive practices. *Erickson* v. *Federal Trade Commission,* 272 F.2d 318, 322 (7th Cir. 1959); *Independent Directory Corp.* v. *Federal Trade Commission,* 188 F.2d 468, 471 (2d Cir. 1951). Thus, insofar as consumer testimony is concerned, the record reflects conflicting evidence.

As for scientific proof in support of petitioners' contentions, the only submission of a scientific nature contained in the record was that relating to a series of tests run at Peninsula Laboratories, Mountain View, California. The tests, which included a washing-machine experiment, were supervised by Howard Frantz, a chemist and partner of Peninsula Laboratories, and were performed by chemists Gloria F. Sirine and Walter Hasbrook, Jr. (IV, 2500-2502, 2505, 2527, 2849-2851, 3227, 3228). From a scientific standpoint, the testimony was clearly inconclusive. Frantz stated: "Frankly, I haven't seen enough evidence to state as a scientist that I have seen there is proof that the Evis unit does do it * * *." (IV, 2803.) "As a scientist, I can't say for sure. * * * I am not prepared to say my mind is made up that the Evis was the cause of it." (IV, 2806.) Frantz also testified that the absorbol filtration test, concerning the percolation of water through fuller's earth, was *not* a conclusive experiment (IV, 2817).

The only additional scientific testimony was that of William J. O'Connell, a chemical engineer, who acted as a consultant to counsel for petitioners in connection with this case (IV, 2955). The tenor of his testimony, however, must be evaluated in the light of the fact that

preceding and following him on the stand were consumers whose testimony was designed to prove the beneficial results of the Evis pipe as claimed by petitioners (See Br. pp. 3-25). Consequently, it was to be expected that consultant O'Connell would testify in the vein of those consumers that the Evis produces beneficial results. Nevertheless a perusal of his testimony reveals one of the striking aspects of this case: he, the scientist, was not asked a single question by counsel for petitioners about the operation of the Evis, about any possible scientific law or principle underlying its operations, or about the beneficial effect of Evis on water (IV, 2955-2977, 2985-3032, 3045-3050; see also Pet. Br. pp. 47-56).

Frantz' testimony demonstrates that as a scientist he could not state that there was enough proof to justify the claimed effect of Evis. O'Connell observed sepulchral silence in this respect. Thus, the record contains no scientific testimony of any scientist which would flatly contradict the opinions, views and conclusions of the scientists that the Evis pipe has no effect on water. In the light of such a record, which does not even present the problem of conflicting scientific testimony as to the ineffectiveness of the Evis pipe, the applicable principles of law are clear and unequivocal.

Decisional law, dating back many years, has established that it is for the Commission to weigh the evidence and draw the inferences therefrom. *Federal Trade Commission* v. *Pacific States Paper Trade Assn.,* 273 U.S. 52, 63, (1927); *Federal Trade Commission* v. *Algoma Lumber Company,* 291 U.S. 67, 73 (1934); *Corn Products Refining Co.* v. *Federal Trade Commission,* 324 U.S. 726, 739 (1945); *Federal Trade Commis-*

sion v. *Staley Mfg. Co.,* 324 U.S. 746, 760 (1945); *Federal Trade Commission* v. *Sewell,* 353 U.S. 969 (1957); *Carter Products, Inc.* v. *Federal Trade Commission,* 268 F. 2d 461, 494-495 (9th Cir. 1959), *cert. denied,* 361 U.S. 884 (1959); *Erickson* v. *Federal Trade Commission, supra,* 272 F. 2d at 321. A corollary of this basic precept is the rule that the courts will not invalidate inferences drawn by an administrative body simply because they might have reached a contrary result. *Federal Trade Commission* v. *Pacific States Paper Trade Assn., supra,* 273 U.S. at 63; *National Labor Relations Board* v. *Nevada Consolidated Copper Corp.,* 316 U.S. 105, 106 (1942); *National Labor Relations Board* v. *Southern Bell Telephone Co.,* 319 U.S. 50, 60 (1943); *Vacu-Matic Carburetor Co.* v. *Federal Trade Commission,* 157 F. 2d 711, 713 (7th Cir. 1946), *cert. denied,* 331 U.S. 806 (1947); *Allied Paper Mills* v. *Federal Trade Commission,* 168 F. 2d 600, 605 (7th Cir. 1948), *cert. denied,* 336 U.S. 918 (1949). A further principle which has emerged from the foregoing general legal criteria is that it is within the province of the Commission, not that of the courts, to resolve conflicting evidence. *Carter Products, Inc.* v. *Federal Trade Commission, supra,* 268 F. 2d at 496; *Vacu-Matic Carburetor Co.* v. *Federal Trade Commission, supra,* 157 F. 2d at 713.

In the instant situation, there is conflicting user testimony and uncontradicted scientific testimony on behalf of the Commission's case that the Evis has no effect on water. Thus, the legal answer to the issue raised here is given by these court decisions of which the underlying facts in *Vacu-Matic* most strongly resemble the record at bar. In *Vacu-Matic,* petitioner offered a de-

vice claiming that it resulted in saving of gasoline. The petitioner presented consumers who testified that they had experienced a marked saving of gasoline. The petitioner also introduced expert testimony *to the same effect.* On the other hand, the Commission did not offer testimony from any user to the contrary, notwithstanding the fact that more than 200,000 units of the device had been sold. (Evis Manufacturing Company had sold approximately 100,000 Evis units (II, 406).) The Commission in *Vacu-Matic* relied "* * * in support of its case, upon the testimony of a number of highly trained and qualified experts who had made every recognized test and who uniformly testified in substance that there was no merit in petitioner's device." 157 F. 2d at 713. The court concluded that this evidence was entirely "* * * sufficient to support the Commission's finding." 157 F. 2d at 713.

In *Vacu-Matic* there was not conflicting *user* but contradictory *expert* testimony, and the court ruled that this was a matter for the Commission to resolve even though the court, on the basis of the record, could have reached a different conclusion. 157 F. 2d at 713. Here we are faced with conflicting user but uncontradicted expert testimony as to the ineffectiveness of Evis on water. Thus, the present facts lend an even greater support to the *Vacu-Matic* rationale than did the record in that case.

That the Commission's scientific testimony presented in the instant case is *substantial* evidence is corroborated not only by *Vacu-Matic* but also by a long line of Commission cases concerning the question of substantiality of scientific evidence. For example, in *Justin Haynes & Company* v. *Federal Trade Commis-*

sion, 105 F.2d 988 (2d Cir. 1939), *cert. denied,* 308 U.S. 616 (1939) the court expressed these views:

> These findings are supported by the testimony of the three expert witnesses called by the Commission; and in the light of such testimony there can be no doubt that the petitioner's advertisements were grossly exaggerated and misleading. *It is true that these witnesses had no personal experience with Aspirub and based their opinions upon their general medical and pharmacological knowledge.* They were, however, well-qualified expert witnesses, *and the fact that other experts called by the petitioner expressed a contrary opinion and testified to experiments cannot enable the petitioner to contend successfully that there was no substantial evidence to support the Commission's findings.* That this court is not permitted to pass upon the weight of the evidence is too well established to require the citation of authorities. [105 F. 2d at 989; emphasis added.]

Aside from the fact that the *Haynes* case presented a situation of conflicting expert testimony, it is of great significance in the instant case inasmuch as the court there held that scientists need not have personal experience with the product involved in order for their opinions to be accepted as substantial evidence. Of *identical import* are these decisions: *Dr. W. B. Caldwell, Inc.* v. *Federal Trade Commission,* 111 F. 2d 889, 891 (7th Cir. 1940); *Neff* v. *Federal Trade Commission,* 117 F. 2d 495, 496-497 (7th Cir. 1941); *John J. Fulton Co.* v. *Federal Trade Commission,* 130 F. 2d 85, 86 (9th Cir. 1942), *cert. denied,* 317 U.S. 679 (1942); *Segal Lock & Hardware Co.* v. *Federal Trade Commission,* 143 F. 2d 935, 937 (2d Cir. 1944), *cert. denied,*

323 U.S. 791 (1945); *Irwin* v. *Federal Trade Commission,* 143 F. 2d 316, 323-324 (8th Cir. 1944); *J. E. Todd, Inc.* v. *Federal Trade Commission,* 145 F. 2d 858 (D.C. Cir. 1944); *Bristol-Myers Co.* v. *Federal Trade Commission,* 185 F. 2d 58, 61-62 (4th Cir. 1950); *Carter Products, supra,* 268 F. 2d at 496; *Erickson, supra,* 272 F. 2d at 321; see also *United States* v. *One Device, etc.,* 160 F. 2d 194, 197-200 (10th Cir. 1947); *Goodwin* v. *United States,* 2 F. 2d 200-201 (6th Cir. 1924).

In every one of these cases, except for the two mentioned last, the Commission was confronted with conflicting scientific testimony, and in all of them the courts, including this Court, have invariably and consistently held that the scientific testimony on behalf of the Commission must be regarded as substantial evidence and that the resolution of any conflict in such testimony is for the Commission, not the courts.[9] Again, we must stress that in the instant case there was no conflicting scientific testimony as to the ineffectiveness of the Evis on water and that the unusually meager scientific testimony introduced by petitioners did not flatly contradict the conclusion of the Commission's witnesses that the Evis pipe does not affect water. Consequently, the controlling legal principles applicable to the instant record make it abundantly clear that the evidence upon which the Commission relied was substantial in every sense of the word. *And this is true regardless of whether or not the scientists performed any tests with the Evis pipe.*

What then is the position of petitioners vis-a-vis the

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[9] See also *P. Lorillard Co.* v. *Federal Trade Commission,* 186 F. 2d 52, 56-57 (4th Cir. 1950); *Segal* v. *Federal Trade Commission,* 142 F. 2d 255 (2d Cir. 1944).

substantiality of the Commission's evidence and their failure to introduce countervailing scientific evidence regarding the effectiveness of Evis on water? Because of the absence of such countervailing evidence they were compelled to rely upon user testimony and have thus devoted the first portion of their brief to the recital of user plaudits (pp. 3-25), without a single reference anywhere in their entire brief to their only scientific testimony concerning the Evis operation, i.e., that of the chemist Frantz, which in itself is of telltale significance.[10] Petitioners then criticize the lack of consumer testimony in support of the complaint (Br. 25-26). In the first place, on the basis of the record, 3,000 users, had they been called, would have testified to the failure of Evis, thus overwhelmingly contradicting petitioners' consumer witnesses. But above all, there is no requirement for the Commission to make its holding contingent upon consumer opinion.[11] In *Vacu-Matic,* the Commission specifically abstained from calling users of the device even though petitioner presented consumers testifying to its beneficial effect. Nonetheless, the court ruled that the Commission's scientific

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[10] Petitioners' only reference to the work of Peninsula Laboratories is in a footnote (Br. 25).

[11] It is well settled that the Commission is not required to sample consumer opinion and that it has a fundamental right to draw its own conclusions as to whether representations are false, misleading and deceptive. *E. F. Drew & Co.* v. *Federal Trade Commission,* 235 F. 2d 735, 741 (2d Cir. 1956), *cert. denied,* 352 U.S. 969 (1957); *New American Library* v. *Federal Trade Commission,* 213 F. 2d 143, 145 (2d Cir. 1954); *Charles of the Ritz Dist. Corp.* v. *Federal Trade Commission,* 143 F. 2d 676 (2d Cir. 1944); *Zenith Radio Corporation* v. *Federal Trade Commission,* 143 F. 2d 29, 31 (7th Cir. 1944); *Federal Trade Commission* v. *Hires Turner Glass Company,* 81 F. 2d 362, 364 (3d Cir. 1935).

evidence, without supporting consumer testimony, constituted substantial evidence, ~~citation.~~ Moreover, we have shown above that the opinions, conclusions and views of scientists, though not based on experience with the product in question, must be held to be substantial evidence. Therefore, the Commission's reliance upon scientific expert testimony in the instant situation is fully sustained by every one of the decisions cited above. Petitioners' criticism of the absence of consumer testimony hence is entirely without merit.

Since petitioners were forced to rest their defense upon conflicting user testimony and were unable to meet the Commission's scientific evidence, they sought to minimize the impact of that evidence by attacking the tests and scientists who conducted them. The principal thrust of petitioners' contention is directed against the alleged failure of the scientists to observe installation instructions and against the alleged irrelevance of the tests and experiments carried out by these Commission witnesses (Pet. Br. at pp. 26, 31-33, 42-47, 66-71, 76-78). Yet the very standards which petitioners invoke in support of their argument were not observed in a large number of installations which their consumer witnesses described as successful. In order fully to show the weakness of the assertions regarding the importance of these instructions, we shall briefly discuss them.

1. Petitioners issued varying sets of instructions at various times, each set superseding and modifying the previous one.

Petitioners contend that their instructions were contained in two bulletins (Br. p. 76). This is completely refuted by the record. In what appears to be one of the

first circulars regarding Evis (CX 29A-VI, 890) the device is merely described as a "pipeline fitting" without any special instructions for its installation. Another early pamphlet simply calls for the installation of the Evis pipe on the main service line of the house with the admonition not to place it on the hot water line and not to mix Evis-treated water with untreated water (CX 2-VI, 818). Next, according to the record, is a bulletin of September 1, 1952 (CX 8A through F-VI, 827-837) which contains about 10 different instructions regarding the installation, including the direction not to install the Evis on pipelines carrying heated water and not to mix Evis-treated with untreated water and, if possible, to consider electrical grounding of the pipe system on which the Evis device is to be installed (CX 8C-VI, 831-832). A pamphlet dated July 15, 1953, contains, on its last page, drawings depicting the points at which the Evis pipe should be installed without any further instructions (CX 21-VI, 864). Another circular, undated, contains instructions for installing air-conditioning and refrigeration equipment; however, it confines itself almost exclusively to grounding procedures and consists of about eight directions but omits entirely the prohibition of mixing Evis-treated with untreated water (CX 22D-VI, 871). Another Bulletin is that of July 20, 1953, containing seven directions (CX 27B-VI, 881).

A further circular, also issued in 1953 but omitting the precise date of publication, contains two instructions regarding installation, one requiring that Evis-treated and untreated water not be mixed and the other calling for adequate grounding (CX 31C-VI, 898). There is no further reference in the bulletin to the

other instructions contained in previous issues. In contrast to the previous circulars and pamphlets, this information sheet discusses for the first time laboratory procedures and their purported limitations and recommends that *practical* tests be performed. The circular objects to laboratory experiments and refers to a whole series of what it characterizes as "misguided" tests. It warns that reports not authorized by petitioners should be carefully examined (CX 31C through D-VI, 898-900). It is not unfair to comment here that these statements were quite obviously designed to counter the negative results of the tests performed by scientists during 1952 and early 1953 and to anticipate and insulate petitioners against possible criticism.[12] Furthermore, the instructions for tests, such as "no cross-connection piping" (CX 31C-VI, 898-899), appear nowhere in any of the later bulletins hereinafter considered. Nor were these instructions contained in any of the previous bulletins. This fully exposes the flimsiness of petitioners' charges on pages 46-47 of their brief that the scientists disregarded the instructions

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[12] It should be recalled here that, at the request of a representative of petitioners, the Department of Water and Power of Los Angeles conducted tests in July, August and September, 1952, with negative results; that the Southern California Gas Co. performed tests in February and March, 1953, with negative results; that, again at the request of a representative of petitioners, Dr. Allison at the United States Salinity Laboratory of the United States Department of Agriculture in Riverside, California, conducted tests commencing February, 1953, with negative results; that the chemist de Bussieres, at the request of the Better Business Bureau, performed tests in 1952, again with negative results; and that, at the request of the Better Business Bureau, the Division of Industrial Research, Institute of Technology, Washington State College, performed tests as early as March, 1952, with negative results (II, 5, 120; CX 9A-VI, 839; CX 11A through B-VI, 842-843; II, 242, 478, 482-483, 584, 654).

that there should be "no cross-connection piping." Those who conducted tests before the date of publication could not have known of these fabricated requirements, and those who performed tests after 1953 could not have known these instructions because they were not contained in any of the later bulletins.

Another bulletin relating to instructions is that of July 31, 1953 (RX 34-VI, 1009-1012), containing schematic sketches, emphasizing the importance of electrical grounding and setting forth eight general directions, some of which—such as those relating to the installation of Y-type strainers—are not contained in previous instructions (RX 34-VI, 1010). Still another installation pamphlet was issued on January 1, 1954, and was devoted principally to grounding procedures and illustrating them by schematic sketches (CX 58-VI, 956-959; identical with RX 52-VI, 1021-1024).

The last bulletin contained in the record is that of 1956 (CX 57-VI, 954-955). This bulletin is especially noteworthy since it omits entirely every one of the instructions involving grounding procedures.

Hence, it is obvious from the foregoing recital that none of the bulletins contain all of the so-called instructions which petitioners claim to have developed during the period under review with the purported objective of assuring proper operation of the Evis.

It is particularly important to point out at this juncture that petitioners choose to criticize the absence of what they label as "proper grounding" of the various test installations (Br. 46-47), even though their last bulletin completely fails to apprise the public of the necessity of grounding. This in itself is an indication that they did not regard grounding as important, thus

fully sustaining the views of Commission witness Dr. Hoffman (III, 1259). And it is well to recall here because of what petitioners' late president, Joseph T. Voorheis, had to say about proper installation procedure (CX 34-VI, 905): "The plumber who installs the Evis units will usually place it so the water flows in the direction of the arrow although if he should make a mistake it would make no difference." This, if nothing else, clearly indicates, they did not attach such significance to installation instructions as they would ~~would~~ like the Court to believe.[13]

2. Many installations of petitioners' own user witnesses were not made pursuant to the instructions.

As hereinabove noted, petitioners have criticized the various tests because the Evis pipe was not installed according to their instructions (Br. 26, 32, 42-47, 67-71, 74-78). First of all, petitioners concede that Dr. Allison's installation was made pursuant to the instructions (Br. 26, 44), presumably because they claim the results of his tests as being in favor of Evis—an assertion which, as more fully considered below, is completely contrary to Dr. Allison's own opinions and conclusions drawn on the basis of these tests. Next, many of the Commission's witnesses testified that in installing the Evis device they adhered to the then available instructions (II, 30, 189, 233, 341, 355-356, 521, 533, 556; III, 1077-1078, 1232, 1269; V, 3790-3792).

Some of the Commission experts also noted that ob-

[13] It is interesting to note that, for example, bulletin RX 34-VI, 1009-1012 was allegedly prepared at a meeting of 30 representatives of petitioners, the bulletin being dated July 31, 1953 (Br. at 44). Yet the above-quoted statement of J. T. Voorheis was made on September 11, 1953 (CX 34-VI, 905).

servance of the installation instructions would have had no effect upon the results of their tests—a view in which, as quoted above, petitioners' late president certainly would have concurred (II, 33, 216, 483; III, 1259). Moreover, there is no more significant support for this position than petitioners' omission of the grounding requirements in their 1956 bulletin and their failure to advise either before or after 1953 those who desired testing the Evis device in laboratories about the "no cross-connection" instruction and the numerous other test guides published, according to the record, only once in 1953 but not during subsequent years (CX 31C-VI, 899-900). Furthermore, many installations which were described by petitioners' user-witnesses as successful had *not* been fitted in accordance with the instructions.[14] In many of these instances the requirement of grounding was not observed.[15] Several consumer witnesses testified that they had not received any instructions.[16] In at least three instances witnesses installed a cast-iron Evis on copper piping, contrary to the instructions set forth in CX 57-VI, 954; CX 58-VI, 957 (III, 2104; V, 3487, 3688). In some installations Evis-treated water was mixed with untreated water (IV, 3114, 3131, 3385-3386, 3388), in direct contravention of what purports to be one of petitioners' most important instructions (see p. 33 above). In two

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[14] III, 1756, 1757, 1764, 1794, 1795, 1797, 1885, 1960, 1972, 2052, 2104, 2186-2187; IV, 2290, 2320, 2339, 2582-2583, 2616-2617, 2761, 2771-2772, 2783-2784, 3075; V, 3435, 3483-3485, 3538, 3578, 3609-3610, 3622, 3639, 3667-3668, 3688.

[15] III, 1794, 1795-1797, 1885, 1960, 2290; IV, 2616-2617, 3075; V, 3435, 3484-3485, 3537, 3556, 3578-3579, 3609-3610, 3622, 3639, 3667-3668, 3701.

[16] IV, 2320, 2339, 2595, 2697, 2783.

instances hot water passed through the Evis pipe (IV, 3385, 3388; V, 3428), again contrary to installation instructions.[17] And many of the witnesses did not at all observe the installation of the Evis pipe.[18]

With regard to most user installations the consumer testimony was confined to "before and after" results, thus making a concurrent comparison between Evis-treated and untreated water impossible. Consequently any one of a number of factors unrelated to the Evis pipe could have caused changes leading to different results. For example, in many cases consumer witnesses discontinued the use of water softeners or chemicals after the installation of the Evis pipe.[19] Thus, it is a matter of pure speculation whether the Evis pipe or the discontinuance of softeners or chemicals caused a change in conditions.

Many of petitioners' consumer witnesses testified about changes in the water supply or the use of different water sources.[20] Others did not know whether there was a change in the water supply or whether the water used by them was being treated, nor were they cognizant of the identity of their water source.[21] These factors may well have contributed to a change in the water

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[17] CX 2-VI, 818; CX 8C-VI, 832; CX 27B-VI, 881.

[18] III, 1803, 1833, 1885, 1958, 2202-2203; IV, 2581, 2835, 3361.

[19] III, 1816-1817, 1852-1853, 1883, 1896, 1938-1939, 2000, 2024, 2134, 2167, 2216, 2255; IV, 2278, 2395, 2422, 2602, 2675, 2767, 2783, 2841, 3067, 3083, 3106, 3123, 3183, 3207, 3222, 3244, 3331, 3344-3345, 3396, 3400; V, 3429, 3473, 3529, 3591-3592, 3624.

[20] III, 1944, 2061; IV, 2384, 2402, 2662, 2761, 2782, 2887-2888, 3087-3088, 3250, 3342-3343, 3404; V, 3429, 3458, 3488, 3555, 3584-3585.

[21] III, 2240, 2252, 2262; IV, 2286-2287, 2367, 2480, 2559, 2579-2580, 2695, 3070, 3139, 3186, 3361; V, 3538, 3541.

regardless of the installation of the Evis pipe. As pointed out by petitioner Wells: "It has been found that if the salt content of the water suddenly increases, that sometimes scale which has taken a year to build up will come off in a matter of weeks. That has been known to happen many times." (II, 460.) Of course, none of the users could explain how and why Evis affected the water.

Small wonder, in the light of such a state of the record, that the Commission could attach little value to the user testimony (I, 816). But what is even more significant, petitioners' charges of grave defects of the scientific tests due to failure to follow instructions are not only wholly unfounded but also completely meaningless in view of the fact that in a large number of Evis installations petitioners' directions were simply not observed. Moreover, as we have demonstrated above, the instructions purportedly governing tests were published only once, i.e., in 1953. Scientists could not possibly have known about them before the date of publication; as for tests performed after the date of publication, it must be pointed out that none of the later bulletins, insofar as the record discloses, contained these instructions.

3. Petitioners' attacks upon the tests and the scientists are unwarranted.

One of the striking features of petitioners' brief is, as noted, their complete silence in regard to the only scientific evidence they presented on the question whether the Evis pipe does in any way affect water, i.e., the testimony of the chemist Frantz that the evidence of Evis' effectiveness is inconclusive (p. 25 above).

Instead they have copiously cited the testimony of consultant O'Connell, who ranged far and wide on the subject of water treatment but carefully abstained from the crucial issue of this case, namely, whether there are any scientific principles or any scientific laws which explain the functioning of the Evis pipe, and above all whether the Evis pipe has any effect on water.

Accordingly, the dearth and inconclusiveness of petitioners' scientific evidence, their inability to rebut the Commission's evidence by any scientist—and we emphasize *any* scientist who would have been willing to state under oath that Evis has an effect on water—has compelled them to devote most of the brief to attacks upon the tests and upon the scientists who testified on behalf of the Commission (Br. pp. 26-42, 44-46, 52, 53, 65-71, 76-78). Without unduly burdening the Court, we shall point out some samples of petitioners' tactics.

For example, petitioners claim that Dr. Allison's soil-properties and plant-growth tests, which, they state, were performed in accordance with their instructions (Br. 26, 44), disclosed beneficial differences in favor of the Evis pipe (Br. 36-38). Consider Dr. Allison's testimony regarding all of these claimed differences which petitioners did not dare to have interpreted by either chemist Frantz or consultant O'Connell:

By Mr. Downs:

> Q. Counsel has gone through these charts and tables and pointed out a few discrepancies, doctor. Taking all of these into consideration, in your work on these projects, based on your experience, education, and knowledge of the subject, what is your opinion as to value of the Evis Water Condi-

tioner in the improvement of the texture of, or structure of soil or in the growth of plant life?

* * * *

THE WITNESS: Well, I can answer that question only on the basis of the data we obtained from this experiment; solely that; that these differences that have been brought out are very minor in most cases, practically all cases; that the differences, for instance, in salinity in favor of one kind of water and another were at a low level of salinity, where the amount of salinity present wasn't a very serious factor in plant growth. I know that was just a slight saline soil where all plants, with a few exceptions, would grow in it, so far as the salinity factor is concerned. I should point out that most of the change in reclamation, that is, lowering of the exchangeable sodium percentage, was due to the gypsum entirely and in the absorption of gypsum. There was no difference between the ESP for Evis water as compared with raw water.

* * * *

* * * As for improvement of structure and texture of the soil, you cannot improve the texture of the soil. That is a fundamental property of soil that is unchangeable, so the use of that term is not valid here. You can change the structure of soil and in regard to the data that I presented, the only measurement that bore upon that were the modulus of rupture and as I pointed out although that data is not in the report—we had the data—there was no difference due to treatment of the water in the term of modulus of rupture. So that, based on the limited data I have, I can see no change in structure through the use of Evis treated water * * *.

* * * *

> My concise opinion, based primarily upon the data I presented and in the terms of that data and the result drawn from it, Mr. Downs, is we saw no value in the treatment, in the treatment of the water; so much so that I would not pursue the investigation further. (II, 301, 303, 304, 305.)

These are Dr. Allison's concise conclusions of the results of his tests. Regardless of petitioners' interpretation, the truth of the matter is that the expert concluded from the data which he had gathered that the Evis treatment of water is of no value whatsoever. What is of equally far-reaching significance, there is no expert statement in the record which shows a contrary conclusion drawn from these data.

Petitioners charge that the freezing-point and conductivity tests performed by the chemist de Bussieres have no bearing whatever on any Evis claims and that the spectroanalysis which the spectroscopist Wagner made of treated and untreated water does not have the slightest relevance to their claims (Br. 33-34). As we have pointed out above (pp. 19-20), the purpose of these tests was to determine whether, as asserted by petitioners, the "EVIS-izing" would establish a delicate change in the molecular organization of water (RX 34-VI, 1011). These tests proved, as was also fully substantiated by Dr. Allison's experiments and the Gildea analysis, that there were no differences between the molecular configuration of Evis-treated water and that of untreated water and therefore no structural dissimilarities, either physical or chemical. Thus, these tests were extremely important inasmuch as they exposed the falsity of petitioners' claims that

the Evis pipe would cause a physical change in water (see pp. 6, 12 above).

Another illustration of petitioners' tactics is their attack upon Dr. Weast's tests and testimony (Br. 38-40). It will be recalled that Dr. Weast conducted experiments to find out whether or not the Evis pipe would remove scale and testified thus:

> A. We only attempted to prove if it would remove the type of scale as formed in our own Cleveland water.
>
> Q. And that is what you refer to as "rusty type of scale"; is that correct?
>
> A. That is right.
>
> Now, this does not mean that the scale consists only of rust. I have testified that we did not perform a chemical analysis on the scale. But I am confident that that scale consists of the other insoluble materials that have been found by previous analysis in Cleveland cold water scales. It is highly colored from the rust and might appear to consist only of rust, but by analysis, I am confident that it would show it has other chemicals in it. (III, 1027-1028.)

Cleveland's water was described by Dr. Weast as causing corrosion, which in turn produces a rusty type of scale (III, 1008). While petitioners did not specifically state in their advertisements that Evis would remove encrustation resulting from corrosion, on the basis of the information supplied in these advertisements, petitioners, in the words of Dr. Weast, "* * * gave the impression that it would remove scale from scaly pipes [and] I see no reason why it would work in

other cities and not work in Cleveland."[22] (III, 1058.) "It is my impression that inasmuch as the statement was not limited, it was inclusive of all types of water." (III, 1058.) Petitioners' only defense to this perfectly justified deduction is, in substance, that they did not advertise that Evis would also remove the Cleveland type of scale (Br. 39-40). This excuse is both ridiculous and frivolous, especially in the light of the statements contained in their advertisements and bulletins that Evis combats or eliminates corrosion (CX 8D-VI, 834; CX 17-VI, 851; CX 18-VI, 854; CX 26-VI, 877; CX 27C-VI, 882-883; CX 28-VI, 888; CX 30-VI, 895).

Typical of the methods used by petitioners is their attack upon Dr. Hoffman, whose opinion and tests have been presented and described at pages 12-13, 20-21 above. They state in their brief (p. 34):

> * * * First, after long, critical and even embarrassing examination, he admitted that his surface tension test had been incorrectly conducted and for that reason "should be summarily discarded as valueless". (III, 1360, 1362.)

The *embarrassing* aspect of this characterization of Dr. Hoffman's views is that petitioners attribute to him a statement he never made. The portion quoted by petitioners was taken from a text written by Dr. Dorsey (III, 1358, 1360); and as to Dr. Dorsey's observations, Dr. Hoffman had this to say:

---

[22] Of course, petitioners could never deny their claim that Evis will remove scale (see CX 2-VI, 818; CX 8C-VI, 831; CX 8D-VI, 833; CX 12-VI, 844; CX 13-VI, 845; CX 14-VI, 846; CX 17-VI, 851; CX 18-VI, 853; CX 26-VI, 877; CX 27B through C-VI, 881-882; CX 28-VI, 888; CX 30-VI, 893; CX 31A-VI, 896; CX 33-VI, 902).

A. All right. I said before he was a perfectionist or is. He writes well. He puts down the criteria that are required for good work. He is trying to establish when he writes that a figure for water. He is not trying to establish the relation between two different kinds of tap water.

Consequently, all that is required in this particular test that I performed is a comparison of the surface tension.

Q. Do I understand by that, Doctor, that you feel that this material that I read to you from Dr. Dorsey's book has some qualification that it is only to be used in certain water tests?

A. Oh, definitely. That could not—

Q. The tests that you were performing with the Evis Water Conditioner, in those you could be more or less slipshod and ignore these rather stringent requirements that he feels were necessary for testing surface tension of water. I might say, Doctor, that the chapter heading or the sub-heading of the chapter that I was reading from—I read the first three paragraphs of it—is "surface tension of water."

* * * *

A. I would say that I could ignore some of the factors, but I would not say that they were slipshod. (III, 1362-1363.)

Next, petitioners charge that Dr. Hoffman "recanted his original testimony" regarding the surface tension tests (Br. 35). Aside from the fact that Dr. Hoffman conducted other tests, he did not testify that the surface tension test alone would prove that Evis could have no effect upon water. It was one of the many tests performed by the scientists, all of which showed the ineffectiveness of Evis on water.

Further, petitioners quote Dr. Hoffman's testimony regarding an Evis installation at the Department of Agriculture station at Beltsville, Maryland (Br. 27-29). Counsel for petitioners was challenged during the proceedings to produce the persons who operated the installation there, but he never accepted the challenge and never produced the persons so that they would testify as to the alleged success of the Evis pipe at Beltsville (III, 1209). Moreover, there is no indication in the entire record that the installation under reference would have permitted a precise concurrent comparison with an installation without the Evis pipe operated under identical conditions at Beltsville. As Dr. Hoffman pointed out:

> A. I am a little reluctant to go into the installations in another department, if I can avoid it. It does not concern my tests any more than the mere inspection to see whether it was grounded.

And in response to an attempt by counsel for petitioners to introduce hearsay testimony regarding the Beltsville installation, Dr. Hoffman stated:

> A. If it is desired by the Commissioner or hearing examiner, I will answer it. I doubt whether I would regard that as my business. I thought it would be the business of the Department of Agriculture to make statements. I hesitate very much to go into another Department's installations and carry tales. * * * (III, 1204.)

As for the installation at the Old Dominion Building, Arlington, Virginia (Br. 29-30), Dr. Hoffman testified as follows:

* * * *

Q. In the course of your inspection at that building did you make inquiry of the operating personnel there as to what the conditions had been before and after the installation of the Evis unit?

A. I forget whether I made any inquiry. I was there mainly to see the grounding system that they were using. We climbed out a window on the roof. We looked at it. I would believe that the personnel was rather highly non-committal.

Q. I see.

A. More or less the idea, "There it is, look at it, see for yourself."

Q. Well, Doctor, had you either before or during that visit received any information that would indicate to you that prior to the installation of the Evis there had been a scaling problem?

* * * *

THE WITNESS: Well, I am very happy to answer that question, because I do not have to depend on hearsay. If you look at the coils there evidently was a scaling problem. Then looking at it again the scaling problem was not solved by the use of the Evis water conditioner. It was simply a case of half a dozen places some scale had broken off and had fallen to the bottom, so that what I saw there would be very inconclusive, no matter how I saw it or under what circumstances. (III, 1341, 1342.)

To all this is of course one basic answer: Petitioners did not put a single scientist on the stand to contradict Dr. Hoffman or to prove, on the strength of the Beltsville and Arlington operations, that Dr. Hoffman erred in his conclusions regarding the ineffectiveness of the Evis pipe.

Next, petitioners assail the testimony of Drs. Albrook and Adams of the Institute of Technology of Washing-

ton State College because of their alleged preconceived opinion of the Evis pipe (Br. 27). The fact is that all the other scientists who testified on behalf of the Commission confirmed their view. Furthermore, despite threats of litigation made by representatives of petitioners (II, 698) these scientists adhered to their opinions. And as for the participation of petitioners in those tests and experiments, Dr. Albrook most appropriately pointed out that the performance of this work was financed by the State of Washington and thus could properly be conducted only by state personnel to assure objectivity and absence of bias. (II, 734.) Moreover, since the Evis representatives were in the business of selling the device, their judgment certainly would have been colored by their own interests in any event (II, 735); but they were told that the college would be glad to set up tests for the petitioners (II, 737-738). At the same time, Evis representatives advised the college that tests were being arranged "with a laboratory of national recognition and reputation." (II, 739.) However, the record is absolutely silent as to whether these laboratory tests were ever conducted unless these representatives had reference to the Peninsula Laboratories' experiments which, according to the chemist Frantz, were inconclusive (p. 25 above).

As for the field experiments which were performed by the college, petitioners reject as implausible the explanation of the dissimilarity of scaling on the coffee urns equipped with the Evis pipe as compared to the scaling of urns without the device (Br. 40-41). Quite the contrary is true. Drs. Albrook and Adams testified that at least twice as much, if not three to four times as much, water ran through the coffee urns without the

Evis as through those with the Evis pipe, thus accounting for the differences in scaling (II, 596, 597, 770-771, 851, 880-881). And as to all of the tests conducted, Dr. Albrook clearly and unequivocally stated that the Evis would have no effect on water.

Petitioners also attack the validity of the beaker test and the base-exchange-softener test, which were performed under the supervision of civil and sanitary engineer Merrell (II, 2-3) of the Department of Water and Power of Los Angeles (p. 15 above) and which were designed to verify the claims that the Evis pipe "keeps drains and sumps free from scum" and "aids operation of base exchange softeners" (Br. 32-33). As to the first test, Merrell testified as follows:

* * * *

> Q. A man with your engineering experience and technical background in the water treatment field, and based upon that, you are prepared to testify that this test here is sufficiently related and comparable to the actual operation of drains and sumps as to be indicative of the effect of Evis?
>
> A. It can be, yes. Many sumps stand as a water trap on a water system, and they will contain water to keep a sewer line sealed. They may contain that for a long time. If not used they will stand and collect scum. To me, the placing of two beakers, one with conditioned water and one without, could be comparable to a sump that was standing and collecting scum. (II, 72.)

They criticize the base-exchange-softener test because the experiment took only three hours. Yet, petitioners have advertised that the results of the Evis will be apparent "immediately upon installation" (CX 18-VI, 853; CX 33-VI, 902). Indeed, two of petitioners'

consumer witnesses stated that they noticed the results of Evis action *immediately* upon use (III, 2047-2048; IV, 2256).

In general, to make their attack, petitioners simply take the position that, on the one hand, insofar as the chemical composition of water is concerned, the tests merely confirmed the inventor's assertion regarding such chemical composition and that, on the other hand, they were irrelevant (Br. 26, 31-33). It is quite obvious that petitioners necessarily had to reject laboratory testing as invalid because of the fatal weakness of their own scientific testimony. Yet no one can be so credulous as to believe that a scientific invention cannot be proved by scientific tests. The tests which petitioners criticize (Br. 31-32) constituted a logical starting point (II, 858-859). Above all, the large number and variety of tests and experiments carried out on behalf of the Commission, not solely in laboratories but also in field installations, produced, according to the scientists, only one result: the Evis pipe has no effect on water.

Finally, petitioners assail the tests performed by Drs. Johnson and Gildea of the Engineering Experiment Station of the University of Virginia (Br. 66-71). This attack is based upon alleged nonobservance of petitioners' instructions regarding accumulation of solids content and "blow-down" procedures. The instructions specifying the solids content were not included in the instructions available to Dr. Johnson and therefore not followed by him in the performance of the experiments (V, 3791-3792; CX 57-VI, 954-955; CX 58-VI, 956-959). Commission Exhibit 31B-VI, 897, which itemizes the contents of solids, was published *once,* i.e., in 1953. None of these specifications

was contained in any of the later instructions included in the record. Yet, petitioners have the audacity to claim that these tests were not carried out according to instructions regarding the content of solids even though such instructions were eliminated from later bulletins. So much for the instruction story.

Now, as for the "blow-down" tale, the record shows that Dr. Johnson flushed the stills he used in the test once a week (V, 3862). Moreover, at least three of the user witnesses who testified regarding the success of Evis stated that they did not clean their evaporator condensers after the installation of the Evis pipe (III, 1984; IV, 2569-2570, 2648). Furthermore, since there was no difference in the scaling between the Evis-equipped stills and those without the Evis pipe and both groups of stills were operated under identical conditions, the conclusion drawn by Dr. Johnson that the Evis device has no effect upon scaling was entirely justified (pp. 22-23 above).

Moreover, all conclusions are fully corroborated by the tests, opinions, and views of the other scientists who testified on behalf of the Commission. Indeed, petitioners' whole strategy of substituting scientific opinions and conclusions by criticism and attack exposes the fatal weakness of their entire position in this case. They abstained throughout the proceedings before the Commission from calling a single scientist who would state that the conclusions of the Commission witnesses regarding the ineffectiveness of Evis were wrong, and they thus completely failed to rebut the validity of these conclusions.

4. Petitioners have failed to rebut the Commission's scientific proof concerning the ineffectiveness of the Evis pipe.

We have demonstrated in the foregoing pages that under no known scientific principle or law could the Evis pipe have any effect on water, that the results of a large number of tests and field experiments have shown that the Evis pipe could not affect water, and that the scientific proof regarding the ineffectiveness of Evis is not controverted by any contrary scientific proof. In such a state of the record it is no defense for petitioners to contend that only practical experience, not scientific tests and experiments, will show the success of the Evis pipe (Br. 26). Such a defense is merely an attempt to insulate petitioners from the impact of adverse scientific proof. If there is any explanation of the alleged functioning of the Evis, it must be within the knowledge of petitioners but they admittedly and flagrantly failed to disclose any such knowledge (p. 6 above).

In the light of such circumstances the applicable principles of law are unmistakably clear. As pointed out by the Supreme Court in *Mammoth Oil Co.* v. *United States,* 275 U.S. 13, 51 (1927), quoting Lord Mansfield: "It is certainly a maxim that all evidence is to be weighed according to the proof which it was in the power of one side to have produced and in the power of the other to have contradicted." And "* * * where a defendant has failed or refused to produce the most satisfactory evidence he leaves his cause exposed to the presumption that, if produced, it would tell against him * * *." *Armstrong* v. *Belding Bros & Co.,* 297 Fed. 728, 730 (2d Cir. 1924), *cert. denied,* 265 U.S. 585 (1924); see also *Mary Muffet, Inc.* v. *Federal*

Trade Commission, 194 F. 2d 504, 505 (2d Cir. 1952). Particularly appropriate here is the rationale of the court in *United States* v. *50¾ Dozen Bottles,* 54 F. Supp. 759, 762, 763 (W.D. Mo. 1944):

> The scientific testimony in a case of this character is the testimony that counts. Scientific testimony is available to support any meritorious cause * * *.
>
> * * * *
>
> There was a reason for the complete failure of the claimants to support their contentions by outstanding expert testimony. That testimony just was not procurable. The failure of the claimants in this respect impressed us as almost the equivalent of the confession of the general accuracy of the testimony of the Government's experts.

Consequently the failure and refusal of petitioners to disclose the metal composition of the Evis pipe and the claimed special processing, which are alleged to have an effect on water passing through the Evis pipe (p. 6 above) are in themselves strong confirmation of the Commission's conclusions. In *United States* v. *Denver & R.G.R.R.,* 191 U.S. 84, 92 (1903), the Supreme Court stated:

> * * * When a negative is averred in pleading, or plaintiff's case depends upon the establishment of a negative, and the means of proving the fact are equally within the control of each party, then the burden of proof is upon the party averring the negative; but when the opposite party must, from the nature of the case, himself be in possession of full and plenary proof to disprove the negative averment, and the other party is not in possession of such proof, then it is

> manifestly just and reasonable that the party which is in possession of the proof should be required to adduce it; or, upon his failure to do so, we must presume it does not exist, which of itself establishes a negative.

To the identical effect, see *Charles of the Ritz Dist. Corp.* v. *Federal Trade Commission, supra,* 143 F. 2d at 679.

Petitioners also assert that their user witnesses are the "true experts" in this case (Br. 71). Aside from the fact that none of the "true experts" explained in his testimony how and why this controversial piece of pipe performs the alleged function, hardly anyone would be so credulous as to regard a housewife, a stewardess, a cleaning shop owner, a hotel manager, a motion picture producer, a jeweler, a commercial photographer, a supermarket proprietor, a cafeteria manager—just to mention a few—sufficiently qualified to discuss the scientific problems which were the subject matter of inquiry.[23] Not only is their testimony of negligible value because changes in the water they used could have been caused by any number of factors (pp. 38-39 above), but it must be regarded as flatly contradicted by 3,000 other users, who could have been called to the stand. And it is also a well-established principle of law that "[o]pinions of experts when founded upon known scientific facts are not to be considered the same as opinions of laymen but are considered by the courts as substantial evidence." *Elliot Works* v. *Frisk,* 58 F. 2d 820, 824 (S.D. Iowa, 1932). The fact that the opinion of an expert is in conflict

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[23] III, 2254; IV, 2825; IV, 2587; V, 3493; III, 2011; III, 2243, IV, 2361; IV, 2551; IV, 2621.

with the opinions of others who are not experts does not deprive it of its evidentiary substantiality. *Farley* v. *Heininger,* 105 F. 2d 79, 84 (D.C. Cir. 1939), *cert. denied,* 308 U.S. 587 (1939).

The long and short of all this is that petitioners' charges of error allegedly committed by the Commission (Br. 58-63) are refuted not only by the record but also by petitioners' inability to rebut the Commission's scientific proof, and their refusal to come forward with whatever knowledge they might have regarding a scientific reason for the functioning of the Evis fully substantiates the soundness of the Commission's conclusions.

Petitioners' final sally is directed against the Commission's reversal of the Examiner's ruling. In answer to this argument it suffices to call to the Court's attention the decision in *Federal Communications Commission* v. *Allentown Broadcasting Corp.,* 349 U.S. 358 (1955), which concerned the issuance, to one of two applicants, of a license to construct a broadcasting station. The examiner recommended that the application of Allentown Broadcasting Corporation be granted. The other applicant filed exceptions, and the commission reversed the examiner's finding and decided in favor of the other applicant. The appellate court reinstated the findings of the examiner because the commission was in error in overruling the examiner. The Supreme Court, in turn, reversed the appellate court and said in part:

> * * * Th[e] court analyzed the evidence before the Commission as to Easton's uncertainty on affiliating with radio networks to secure their programs for its listeners, the reluctance, evasive-

ness and lack of candor of Easton's principal witnesses, * * *. The court agreed with the Examiner and overruled the Commission. None of the above circumstances are in themselves a bar to the Commission's grant of license. Each involves appraisals of testimony that put into a record facts derived from various witnesses by interrogation. There was substantial evidence considering the whole record that had to be weighed, pro and con, as to types of programs, evasiveness of witnesses, * * *.

The Court of Appeals' conclusion of error as to evasiveness relies largely on its understanding that the Examiner's findings based on demeanor of a witness are not to be overruled by a Board without a "very substantial preponderance in the testimony as recorded," citing *Labor Board* v. *Universal Camera Corp.,* 190 F. 2d 429, 430. We think this attitude goes too far. It seems to adopt for examiners of administrative agencies the "clearly erroneous" rule of the Fed. Rules Civ. Proc., 52(a) applicable to courts. In *Universal Camera Corp.* v. *Labor Board,* 340 U.S. 474, 492, we said, as to the Labor Management Relations Act hearings:

> "Section 10(c) of the Labor Management Relations Act provides that 'If upon the preponderance of the testimony taken the Board shall be of the opinion that any person named in the complaint has engaged in or is engaging in any such unfair labor practice, then the Board shall state its findings of fact . . . .' 61 Stat. 147, 29 U.S.C. (Supp. III) § 160(c). The responsibility for decision thus placed on the Board is wholly inconsistent with the notion that it has power to reverse an examiner's findings only when they are 'clearly erroneous.' Such a

> limitation would make so drastic a departure from prior administrative practice that explicitness would be required."
>
> That comment is here applicable. [349 U.S. at 363-364.]

The comment referred to by the Court is not only applicable in the *Allentown* case but also here. As pointed out by the Commission, the Examiner simply had misconceived the standard of proof required in a case of the instant nature (I, 814). After all, the Commission in its deliberations cannot substitute fiction for facts, and it must necessarily rely in its decisions upon known scientific facts, not upon unforeseen, purely speculative assertions that the unknown future might possibly supply an explanation for the reasons why the Evis pipe performs the alleged functions.

V. CONCLUSION

In the light of both the record in the instant case and the governing principles of law, the Commission's conclusions are eminently reasonable and the Commission's order to cease and desist has, in every respect,

been properly issued and entered. It should be affirmed and enforced.[24]

Respectfully submitted,

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Washington, D. C.,
April 1960.

[24] "To the extent that the order of the Commission is affirmed, the court shall shall thereupon issue its own order commanding obedience to the terms of such order of the Commission." Section 5 (c) of the Federal Trade Commission Act (52 Stat. 112 (1938), 15 U.S.C. 45(c) (1958)).

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APPENDIX

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List of Exhibits

(Pursuant to Rule 18.2(f))

Commission's Exhibit No.	Identified	Offered	Received as Evidence	Record Identification
2	II, 84	II, 85	II, 85	VI, 818-819
3A-B	II, 89	II, 90	II, 91	VI, 820-821
4	II, 138	II, 152	II, 152	VI, 823*
5A-B	II, 145	II, 148, 403	II, 404	VI, 824-825
7	II, 239	II, 240	II, 240	VI, 826
8A-F	II, 319	II, 320	II, 321	VI, 827-838
9A-B	II, 323	II, 324	II, 324	VI, 839-840
10	II, 324	II, 324	II, 325	VI, 841*
11A-B	II, 358	II, 359	II, 359	VI, 842-843
12	II, 403	II, 407-408	II, 408	VI, 844
13	II, 403	II, 411	II, 411	VI, 845
14	II, 403	II, 411	II, 411	VI, 846
15	"	"	"	VI, 847-848
16	"	"	"	VI, 849-850
17	"	"	"	VI, 851
18	"	"	"	VI, 852-855
19	"	"	"	VI, 856-858
20	"	"	"	VI, 859-860

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13	II, 403	II, 411	II, 411	VI, 845
14	II, 403	II, 411	II, 411	VI, 846
15	"	"	"	VI, 847-848
16	"	"	"	VI, 849-850
17	"	"	"	VI, 851
18	"	"	"	VI, 852-855
19	"	"	"	VI, 856-858
20	"	"	"	VI, 859-860

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21	II, 403	II, 411	II, 411	VI, 861-864
22A-D	"	"	"	VI, 865-871
23	"	"	"	VI, 872-873
24	"	"	"	VI, 874
25	"	"	"	VI, 875
26	"	"	"	VI, 876-877
27A-D	"	"	"	VI, 878-885
28	"	"	"	VI, 886-889
29A-B	"	"	"	VI, 890-891
30	"	"	"	VI, 892-895
31A-E	"	"	"	VI, 896-900
33	"	"	"	VI, 901-904
34	II, 473	II, 473	II, 473	VI, 905
35	II, 560	II, 560	II, 560	VI, 906
36	II, 588	II, 589	II, 589	VI, 907-909
37	II, 601	II, 602	II, 602	VI, 910-912
38	II, 605	II, 605	II, 605-606	VI, 913-915
39	II, 607	II, 608	II, 611	VI, 916
40	II, 608	II, 613	II, 614	VI, 919
41	II, 608	II, 615	II, 615	VI, 922
42	II, 617	II, 622	II, 622	VI, 925
43	II, 625	II, 626	II, 626	VI, 928
44	II, 641	II, 642	II, 642	VI, 924*

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45	II, 705	II, 707	II, 707	VI, 930-931
46	II, 705	II, 707	II, 707	VI, 932-933
47A-B	II, 884	II, 886	II, 886	VI, 934-937
48	II, 925	II, 936	II, 936	VI, 938-940
49	II, 925	II, 936	II, 936	VI, 941-943
50	III, 987	III, 993	III, 993	VI, 944
51	III, 990-991	III, 993	III, 993	VI, 945*
52A-D	III, 991	III, 993	III, 993	VI, 946*
54	III, 1133	III, 1135	III, 1136	VI, 947-949
55	III, 1133	III, 1135	III, 1136	VI, 950-952
56	IV, 2663	IV, 2663	IV, 2633	VI, 953
57	V, 3791	V, 3791	V, 3791	VI, 954-955
58	V, 3792	V, 3792	V, 3792	VI, 956-959
61	V, 3815	V, 3816	V, 3816	VI, 962*
64	V, 3817	V, 3818, 3953, 3954	V, 3956	VI, 965-1008

*Record references identified with asterisks are to physical exhibits.

Petitioners' Exhibit No.	Identified	Offered	Received as Evidence	Record Identificati
34	III, 1192	III, 1729	III, 1730	VI, 1009-101
48A-E	IV, 2442	IV, 2445	IV, 2447	VI, 1013-101
49A-B	IV, 2691	IV, 2693	IV, 2693	VI, 1018*
50A-B	IV, 2877	IV, 2879	IV, 2879	VI, 1019*
51A-D	IV, 2937-2939	IV, 2950	IV, 2951	VI, 1020*
52	IV, 2978	IV, 2984	IV, 2984	VI, 1021-102
54A-D	IV, 3322	IV, 3324	IV, 3324	VI, 1025*
55	V, 3728	V, 3728	V, 3728	VI, 1026-106
56	V, 3728	V, 3728	V, 3728	VI, 1066-109
57	V, 3728	V, 3728	V, 3728	VI, 1100-112
58	V, 3728	V, 3728	V, 3728	VI, 1131-115
59	V, 3979	V, 3991	V, 3991	VI, 1162
60	V, 3979	V, 3991	V, 3991	VI, 1163

*Record references identified with asterisks are to physical exhibits.